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TECHNICAL GUIDANCE

FOR

SYSTEM SAFETY DESIGN

Prepared By

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SAFETY

1. Intent: The objective of the safety program is to design into the facility all necessary safety features in a timely and cost effective manner. Before the design process begins, hazards known to exist in similar facilities must be identified. The customer is the best source of this knowledge. A Preliminary Hazards List (PHL) or Analysis (PHA) should be provided by the AIC/EIC for projects involving unusual hazards to personnel from processes housed in the facility. When required by the scope of work to develop a PHL or PHA, contact the project AIC/EIC to determine if any previous list or analysis has been completed if none has been provided. The methodology for completing a PHL and PHA is provided in MIL-STD-882C, System Safety Program Requirements.

2. References:
a. 29 CFR Parts 1910 and 1926, Occupational Health and Safety Act.
b. OPNAV Instruction 5100.23C, NAVOSH Manual.
c. AFOSH Standard 161 series.
d. P-5100-1 NAVAIROSH Requirements For The Shore Establishment.
e. MIL-STD-882C, System Safety Program Requirements.
f. MIL-STD-1472D, Human Engineering Design Criteria For Military Systems Equipment and Facilities.
g. EM 385-1-1, U.S. Army Corps of Engineers, Safety and Health Requirements Manual.
h. EPA 560/5-85-024, Guidance for Controlling Asbestos Containing Materials in buildings.
i. 40 CFR 116, Designation of Hazardous Substances.
j. "Industrial Lead Paint Removal Handbook", by K. A. Trimber, 1991. Available from Steel Structures Paint Council, 4400 5th Ave. Pittsburg, Pa. 15213-2683 (Pub no. SSPC 91-18).
k. NAVSEA Ordnance Pub. 5, Vol 1, 5th Revision, "Ammunition and Explosive Ashore".

3. Design Criteria

3.1 Project Engineering (PE) or Schematic Submittal: The "Basis Of Design" must identify any hazards that will require unique design solutions. Also, the designer must avoid including in the design hazards such as confined spaces with limited access and no ventilation. Mechanical and electrical rooms should provide adequate access to maintain equipment and clearance for panels. Address how the design will eliminate or control the hazards identified in the PHL/PHA. OSHA Standards are to be considered as the minimum safety standards. A good design will exceed the minimum requirements.

3.2 35 Percent Submittal: The "Basis of Design" must include resolutions (elimination or control) for each hazard identified in the PHL/PHA. When required by the scope of work, an

asbestos assessment or survey and/or a lead paint analysis must be prepared by a qualified person.

- Use NAVOSH Instruction 5100.23C for Navy projects.
- Use AFOSH 161 series for Air Force projects.
- Ensure that Adequate ventilation is provided to avoid ‘sick building’ syndrome.
- Industrial ventilation systems must be reviewed by the Naval Facilities Engineering Service Center, Port Hueneme, Ca.
- Locate eye wash and/or emergency shower within 50 ft of eye hazardous operations.

3.3 100 Percent Submittal:

3.3.1 Drawings must include all safety features required by the design criteria. All known asbestos containing materials that will be removed or disturbed must be located on demolition sheets. Any interference with mechanical, electrical or other building systems must also be noted. Areas that will require lead paint to be removed must be identified.

- Provide quantities of asbestos and/or lead to be removed.
- Indicate access and removal route within building.
- Show locations for decon area and lay down area.
- Develop work phasing plan for large or complex removals.

3.4 Final Submittal: The final submittal shall incorporate all previous review comments.